

compliance with the provisions of this section.

(g) As an alternative to the radiated emission limits shown in paragraphs (a) and (b) of this section, digital devices may be shown to comply with the standards contained in the First Edition of CISPR Pub. 22 (1985), "Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment," and the associated Draft International Standards (DISs) adopted in 1992 and published by the International Electrotechnical Commission as documents CISPR/G (Central Office) 2, CISPR/G (Central Office) 5, CISPR/G (Central Office) 9, CISPR/G (Central Office) 11, CISPR/G (Central Office) 12, CISPR/G (Central Office) 13, and CISPR/G (Central Office) 14. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of these CISPR publications may be purchased from the American National Standards Institute (ANSI), Sales Department, 11 West 42nd Street, New York, NY 10036, (212) 642-4900. Copies may also be inspected during normal business hours at the following locations: Federal Communications Commission, 2025 M Street, NW., Office of Engineering and Technology (room 7317), Washington, DC, and Office of the Federal Register, 800 N. Capitol Street, NW., suite 700, Washington, DC. In addition:

(1) The test procedure and other requirements specified in this part shall continue to apply to digital devices.

(2) If, in accordance with § 15.33 of this part, measurements must be performed above 1000 MHz, compliance above 1000 MHz shall be demonstrated with the emission limit in paragraph (a) or (b) of this section, as appropriate. Measurements above 1000 MHz may be performed at the distance specified in the CISPR 22 publications for measurements below 1000 MHz provided the limits in paragraphs (a) and (b) of this section are extrapolated to the new measurement distance using an inverse linear distance extrapolation factor (20 dB/decade), e.g., the radiated limit above 1000 MHz for a Class B digital device is 150 uV/m, as measured at a distance of 10 meters.

(3) The measurement distances shown in CISPR Pub. 22, including measurements made in accordance with this paragraph above 1000 MHz, are considered, for the purpose of § 15.31(f)(4) of this part, to be the measurement distances specified in this part.

(4) If the radiated emissions are measured to demonstrate compliance with the alternative standards in this paragraph, compliance must also be demonstrated with the conducted limits shown in § 15.107(e).

[54 FR 17714, Apr. 25, 1989, as amended at 56 FR 373, Jan. 4, 1991; 58 FR 51249, Oct. 1, 1993]

§ 15.111 Antenna power conduction limits for receivers.

(a) In addition to the radiated emission limits, receivers that operate (tune) in the frequency range 30 to 960 MHz and CB receivers that provide terminals for the connection of an external receiving antenna may be tested to demonstrate compliance with the provisions of § 15.109 with the antenna terminals shielded and terminated with a resistive termination equal to the impedance specified for the antenna, provided these receivers also comply with the following: With the receiver antenna terminal connected to a resistive termination equal to the impedance specified or employed for the antenna, the power at the antenna terminal at any frequency within the range of measurements specified in § 15.33 shall not exceed 2.0 nanowatts.

(b) CB receivers and receivers that operate (tune) in the frequency range 30 to 960 MHz that are provided only with a permanently attached antenna shall comply with the radiated emission limitations in this part, as measured with the antenna attached.

§ 15.113 Power line carrier systems.

Power line carrier systems, as defined in § 15.3(t), are subject only to the following requirements:

(a) A power utility operating a power line carrier system shall submit the details of all existing systems plus any proposed new systems or changes to existing systems to an industry-operated entity as set forth in § 90.63(g) of this chapter. No notification to the FCC is required.

(b) The operating parameters of a power line carrier system (particularly the frequency) shall be selected to achieve the highest practical degree of compatibility with authorized or licensed users of the radio spectrum. The signals from this operation shall be contained within the frequency band 9 kHz to 490 kHz. A power line carrier system shall operate on an unprotected, non-interference basis in accordance with §15.5 of this part. If harmful interference occurs, the electric power utility shall discontinue use or adjust its power line carrier operation, as required, to remedy the interference. Particular attention should be paid to the possibility of interference to Loran C operations at 100 kHz.

(c) Power line carrier system apparatus shall be operated with the minimum power possible to accomplish the desired purpose. No equipment authorization is required.

(d) The best engineering principles shall be used in the generation of radio frequency currents by power line carrier systems to guard against harmful interference to authorized radio users, particularly on the fundamental and harmonic frequencies.

(e) Power line carrier system apparatus shall conform to such engineering standards as may be promulgated by the Commission. In addition, such systems should adhere to industry approved standards designed to enhance the use of power line carrier systems.

(f) The provisions of this section apply only to systems operated by a power utility for general supervision of the power system and do not permit operation on electric lines which connect the distribution substation to the customer or house wiring. Such operation can be conducted under the other provisions of this part.

[54 FR 17714, Apr. 25, 1989; 54 FR 32339, Aug. 7, 1989]

§15.115 TV interface devices, including cable system terminal devices.

(a) Measurements of the radiated emissions of a TV interface device shall be conducted with the output terminal(s) of the device terminated by a resistance equal to the rated output impedance. The emanations of a TV interface device incorporating an in-

tentional radiator shall not exceed the limits in §15.109 or subpart C of this part, whichever is higher for each frequency. Where it is possible to determine which portion of the device is contributing a particular radio frequency emission, the emissions from the TV interface device portion shall comply with the emission limits in §15.109, and the emissions from the intentional radiator shall comply with subpart C of this part.

(b) Output signal limits:

(1) At any RF output terminal, the maximum measured RMS voltage, in microvolts, corresponding to the peak envelope power of the modulated signal during maximum amplitude peaks across a resistance (R in ohms) matching the rated output impedance of the TV interface device, shall not exceed the following:

(i) For a cable system terminal device or a TV interface device used with a master antenna, 692.8 times the square root of (R) for the video signal and 155 times the square root of (R) for the audio signal.

(ii) For all other TV interface devices, 346.4 times the square root of (R) for the video signal and 77.5 times the square root of (R) for the audio signal.

(2) At any RF output terminal, the maximum measured RMS voltage, in microvolts, corresponding to the peak envelope power of the modulated signal during maximum amplitude peaks across a resistance (R in ohms) matching the rated output impedance of the TV interface device, of any emission appearing on frequencies removed by more than 4.6 MHz below or 7.4 MHz above the video carrier frequency on which the TV interface device is operated shall not exceed the following:

(i) For a cable system terminal device or a TV interface device used with a master antenna, 692.8 times the square root of (R).

(ii) For all other TV interface devices, 10.95 times the square root of (R).

(3) The term *master antenna* used in this section refers to TV interface devices employed for central distribution of television or other video signals within a building. Such TV interface devices must be designed to:

(i) Distribute multiple television signals at the same time;